



सत्यमेव जयते

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
क्षेत्रीय कार्यालय (दक्षिण वलय)

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F. No. EP/12.1/852/Tamil Nadu
10th July 2013

To

Mr. M. Anandharaja,
Asst. General Manager (Geology),
Madras Cements Limited,
Pandalgudi, Aruppukotai Tk,
Virudhunagar District, Tamilnadu-626113

Subject: Request for the current status of compliance of the environmental clearance of Maravarperungudi Lime & Kanker Mine (ML area 198.51.5 ha; production capacity 0.64 MTPA of Lime Kanker & Clay), at villages Sudhamadam & Salukkuvarpatti, in Aruppukottai Taluk, in Virudhnagar Distt., in Tamil Nadu M/s. Madras Cements Ltd issued vide MoEF Ref No. J-11015/69/2008-IA. II (M), Dt: 26.03.2009.

Sir,

This is in response to your letter dated 18th June 2013 requesting for a certified copy of the compliance report to the existing above said environmental clearance; the undersigned is directed to enclose herewith the recent monitoring report of this project monitored by this office on 28th June 2013, for necessary action at your end.

Encl: as above

Yours faithfully,

(Dr. U. Sridharan)
Scientist "F"/Director

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GOVERNMENT OF INDIA
Ministry of Environment and Forests
(Regional Office, Southern Zone)
Bangalore-34

PART I

F. No. EP/12.1/852/Tamil Nadu

1	Name of the projects	Maravarperungudi Lime & Kanker Mine (ML area 198.51.5 ha; production capacity 0.64 MTPA of Lime Kanker & Clay), at villages Sudhamadam & Salukkuvarpatti, in Aruppukottai Taluk, in Virudhnagar Distt., in Tamil Nadu.
2	Clearance letter No.& date	J-11015/69/2008-IA. II(M), Dt:26.03.2009.
3	Location: District & State / UT	Aruppukottai Taluk Virudhnagar Distt., Tamil Nadu.
4	Address for correspondence:	Mr. M. Anandharaja, Asst. General Manager (Geology), Madras Cements Limited, Pandalgudi, Aruppukotai Tk, Virudhunagar District, Tamilnadu-626113 Email: adminrnrn@madrascements.co.in Phone: 04562-256201,02,03 Fax: 04562-256268
5	Date of site visit for this report	28 th June 2013
6	Date of previous visit(s) if any	Nil
7	Brief on the project along with the present status:	

The site visit was made to this lime stone mine was made along with Shri. N. Ravi Shankar, Senior Vice President, Mr Dinesh, Manager of this mine and other senior officers of the company.

The Maravarperungudi Limekankar Lime stone mining is different than the other mines where the deposits are shallow and located below the black cotton soil. Here mining is happening in patches and the mined out areas are refilled side by side. This area is said to be of secondary origin, i.e. precipitated from carbonate solutions originating from country rock. The total area of Maravarperungudi Limekankar-Lease III covered by the lease is 198.51.5 Hectares. The kankar deposit extends over a vast area in this belt. The deposit thickness varies from 0.5m to 1.5m averaging one meter thickness covered by black cotton soil as overburden for 1.5 to 2 metres thickness. Hence the depth of the mine does not exceed 3 meters.

The Maravarperungudi Limekankar-Lease III is located in Suddhamadam & Salukkuvarpatti Village, Aruppukottai Taluk, Virudhunagar District, Tamil Nadu State. This is different from the Maravarperungudi Mine Lease II which falls under Maravarperungudi village. Both the leases were obtained in different time period and hence the requirement of separate environmental clearances. Environmental clearance has been obtained from Ministry of Environment & Forest vide letter No-J-11015/185/2005-IA-II(M) dated 07.10.2005 for Maravarperungudi Limekankar Mine-Lease-II (Go Ms-333 dated 23.12.1994) and Environmental clearance has been obtained

from Ministry of Environment & Forest vide letter No- J-11015/69/2008-IA.II(M) dated 26.03.2009 for Maravarperungudi Limekankar Mine-Lease-III.

The lease deed for Lease –III was executed on 07.03.2011 and is valid up to 10.03.2041. The mine has obtained Approved Mining Plan vide Indian Bureau of Mines Approval Letter No-TN/VRD/MP/LST-1774/MDS dated 08.04.2011, valid for the period 2011 – 2016. The Tamil Nadu Pollution Control Board Consent to Operate was obtained under Air & Water Act on 18.01.2012. Subsequent renewals were obtained and current renewal for the period 2013-2015 is under process at TNPCB.

The project authorities are complying with the conditions of the environmental clearance and they are simultaneously involved in the afforestation and reclamation of the mined out area. The Project Proponent is engaging an approved Consultant M/s Ambiente Lab Solutions / Ensyscon, Chennai for season wise Environmental monitoring and the monitoring reports are being submitted to MoEF, TNPCB, Indian Bureau of Mines and other Authorities periodically. The project authorities have obtained IS/ISO-14001-EMS, IS-18001-OHSMS & IS/ISO-9001-QMS certifications. The Tamil Nadu Pollution Control Board Consent to Operate was obtained under Air & Water Act on 22.04.2006. Subsequent renewals were obtained and current renewal for the period 2013-2015 is under process at TNPCB.

The Need based assessment on socio- economic development was studied involving consultant Empres solutions and the CSR activities for the area are identified based on such assessment. Within the Mining lease area there are no habitation. Only in the buffer zone there are villages with only 8 villages having population more than 2000. Land use pattern studies were taken up based on NRSA and majority of land falls under dry fallow and wasteland categories. There is not much agricultural activities except for rain fed crops in the area. The anticipated impacts and mitigative measures are in place.

Their compliance status is satisfactory and the point wise compliance status of their clearance is provided in this report.



(Dr U. Sridharan)
Scientist "SF"

PART-II

Status of compliance to the Environmental clearance issued by the Ministry of Environment and Forests for the Maravarperungudi Lime & Kanker Mine (ML area 198.51.5 ha; production capacity 0.64 MTPA of Lime Kanker & Clay), at villages Sudhamadam & Salukkuvarpatti, in Aruppukottai Taluk, in Virudhnagar Distt., in Tamil Nadu, issued vide Ref: No. J-11015/69/2008-IA.II(M), Dt:26.03.2009.

Compliance status in brief:

S.No.	SPECIFIC CONDITIONS	Compliance
i	No two pits shall be simultaneously worked	Top soil backfilled
ii	Reclamation works in the mined out areas	Being complied
iii	Adequate buffer zone shall be maintained between two leases.	Being complied
iv	Hydro geological study of the area shall be reviewed annually.	Being complied
v	Fugitive dust generation shall be controlled.	Being complied
v	Shelter belt shall be raised around the lease	Being complied
vi	50 m barrier of no mining on all sides	Being complied
vii	Need based assessment for the nearby villages shall be conducted	Complied
viii	Land use pattern of the nearby villages shall be studied	Complied
ix	Maintenance of village roads shall be carried out	Being complied
x	Rain water harvesting shall be undertaken to recharge water source.	Being complied
xi	Measures for prevention and control of soil erosion	Being complied
xii	Trenches / garland drains shall be constructed	Being complied
xiii	Ground water in the core zone shall be regularly monitored	Being complied
xiv	Cultivable waste land (with in 5 Km Of the lease) shall be identified	Agreed to comply
xv	Adequate protection against dust & other pollution	Being complied
xvi	Monitoring of soil samples shall be regularly conducted	Being complied
xvii	Transportation of ore be done by covering the trucks with tarpaulin	Being complied
xviii	Occupational health and safety measures for the workers	Being complied
xix	Top soil / solid waste shall be stacked properly	Top soil backfilled
xx	Over burden (OB) shall be stacked at earmarked dump site(s) only	No OB dump here
xxi	Slope of the mining bench and ultimate pit limit be as per the scheme	Shallow mining
xxii	Plantation shall be raised in the ML area, haul roads, OB dump sites.	Being complied
xxiii	Regular monitoring of ground water level and quality	Being complied
xxiv	Adequate air monitoring stations shall be installed	Being complied
xxv	The waste water from the mine shall be treated	Being complied
xxvi	Vehicular emissions shall be kept under control and monitored.	Being complied
xxvii	Prior permission from shall be obtained for extraction of ground water	Complied
xxviii	Action plan on suggestion made during public hearing.	Complied
xxix	A final mine closure plan, along with details shall be submitted	Agreed to comply
	B. General Conditions	
i	No change in mining technology and scope of working shall be made	Agreed to comply
ii	No change in the calendar plan shall be made	Agreed to comply
iii	Fugitive dust emissions from all the sources shall be controlled	Being complied
iv	Four ambient air quality-monitoring stations shall be established	Being complied
v	Data on ambient air quality regularly submitted	Being complied
v	Measures shall be taken for control of noise levels below 85 dB(A)	Being complied
vi	Industrial waste water should be properly collected & treated	Being complied

vii	Personnel working industry areas be provided with PPE.	Being complied
viii	Provision shall be made for the housing the labourers	Being complied
ix	Financial closure and final approval	Internal funds
x	A separate Environmental Management Cell be formed	Complied
xi	The funds for environmental protection shall not be diverted	Agreed to comply
xii	Financial closure and final approval	Internal funds
xiii	Necessary co operation to regional office for monitoring	Complied
xiv	A copy of clearance letter will be marked to concerned Panchayat	Complied
xv	State Pollution Control Board shall display a copy of the Clearance	Complied
xvi	The project authorities shall advertise at least in two local newspapers	Complied

PART-III

A. Specific Conditions

- i. **No two pits shall be simultaneously worked i.e. before the first pit is exhausted and reclamation work completed, no mineral bearing area shall be worked.**

The mining methodology is different in this mine, here simultaneous production and refilling of the mine pit is being practiced and hence reclamation work is completed after mineral exhaustion of each block.

- ii. **After exhausting the first mine pit and before starting mining operations in the next pit, reclamation and plantation works in the exhausted pit shall be completed.**

Since each block is refilled immediately after exhaustion of each block and the afforestation over refilled area is completed immediately.

- iii. **Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.**

Buffer Zone is provided lease wise.

- iv. **Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt, in case adverse impact on ground water quality and quantity is observed, mining shall be immediately stopped and resumed only after mitigating steps to contain any adverse impact on ground water is implemented.**

It was informed that a hydrological study was conducted and communicated to the Ministry. Season wise water analysis in core and buffer zone is carried out and the results are communicated to the concerned departments. It was assured that in case of any adverse impact on ground water quality and quantity is observed, the mining will be stopped immediately and resumed only after mitigating steps to contain any adverse impact on ground water is implemented.

- v. **Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records submitted to the Ministry.**

The project authorities are sprinkling water through water tankers fitted with sprinklers on all the haul roads used for transportation. The vehicles for transportation are well maintained. Tree plantation is also being done around the mine and along haul roads and outside dumps. Mainly most of their transportation roads are black topped and the ore transporting vehicles are covered by Tarpaulin to arrest dust emissions.

- v. **Shelter Belt i.e. Wind Break of 30 m width and consisting of at least 5 tires around lease facing the school / agricultural fields (if any in the vicinity) shall be raised.**

Not applicable since there are no habitation nearby. However afforestation works are carried out all along the lease boundary.

- vi. **A 50 m barrier of no mining zone all along the side(s) facing the nallah (if any) passing through the lease area or if passing adjacent the lease shall be demarcated and thick vegetation of native species raised. Status of implementation shall be submitted to the Regional office of the Ministry on half yearly basis.**

Safety Bund is provided all along the nallah which is passing through the lease area. Native species is grown all along the barrier. The status of implementation is submitted to the regional office of the Ministry on half yearly basis.

- vii. **Need based assessment for the near by villages shall be conducted to study economic measures which can help on upliftment of poor section of society. Income generating projects/tools such as development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Status of implementation shall be submitted to the Ministry every six months.**

Socio economic activities for the nearby villagers are being carried out regularly by their Ramco Social service team. The status of implementation is submitted to ministry every six months.

- viii. **Land-use pattern of the nearby villages shall be studied and action plan for abatement and compensation for damage to agricultural land/ common property land (if any) in the nearby villages, due to mining activity shall be submitted to the Regional office of the Ministry within six months.**

Land use pattern of the nearby villages has been studied. Major part of the land use pattern suggests seasonal or temporal land use, fallow land, the land in general is not economically productive and local communities have to depend upon mixed occupation. The details are communicated to the regional office.

- ix. **Maintenance of village roads through which transportation of ores are undertaken shall be carried out by the company regularly at its own expenses. The roads shall be black topped.**

The ore is transported through company owned private black topped road.

- x. **Rain water harvesting shall be undertaken to recharge the ground water source. Status of implementation shall be submitted to the Regional office of the Ministry within six months and thereafter every year from the next consequent year.**

Part of the exhausted pit is kept as reservoir for rain water harvesting. This water is utilized for afforestation works.

- xi. Measures for prevention and control of soil erosion and management of silt shall be undertaken.**

The exhausted pit is refilled immediately with the waste generation from adjacent block. There will not be any external dumps and the refilled area is afforested immediately.

- xii. Trenches / garland drains shall be constructed at foot of dumps and coco filters installed at regular intervals to arrest silt from being carried to water bodies. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and for waste dump and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site.**

The mining methodology is different in this mine, here simultaneous production and refilling of the mine pit is being practiced and hence reclamation work is completed after mineral exhaustion of each block. The nullahs passing through the lease area are bunded to arrest the breach and safety distance is provided. There will not be any external dumps since mining, mineral exhaustion refilling and reclamation with suitable species is practiced here. The Garland drain has been formed for a length of 800m x 4m x 2m.

- xiii. Ground water in the core zone shall be regularly monitored for contamination and depletion due to mining activity and records maintained. The monitoring data shall be submitted to the regional office of the Ministry regularly. Further, monitoring points shall be located between the mine and drainage in the direction of flow of ground water shall be set up and records maintained.**

Season wise ground water analysis in core and buffer zone is carried out and the results are submitted to the regional office. It was assured that in case any adverse impact on ground water quality and quantity is observed mining will be stopped immediately and resumed only after mitigating steps to contain any adverse impact on ground water is implemented.

- xiv. Cultivable waste land (within 5.0 km of the lease) shall be identified and fodder farming or other suitable productive use of waste land shall be taken up in phased manner. Status of implementation shall be submitted to the Regional office of the Ministry.**

It was assured that the possibility of fodder farming and other suitable productive use of waste land will be studied and same will be intimated to ministry.

- xv. Adequate protection against dust and other environmental pollution arising due to mining activity shall be made so that human habitation located near the lease (as applicable) are not adversely affected. The status of implementation shall be reported to the Ministry and work shall be completed before start of mining.**

For the prevention of dispersal of Air borne dust; Water sprinkling is adopted on the roads used for transportation and transportation vehicles are maintained properly. Tree plantation is done

around the mine. Plantation over already mined area would be done after backfilling. There is no habitation in the mining areas.

- xvi. **Monitoring of soil samples for assessment of transformation to acidic state or contamination due to mining activity (as applicable) shall be regularly conducted and records maintained.**

Season wise Soil samples are collected in the core zone to represent various land use pattern and records is maintained. The details are submitted to the regional office.

- xvii. **Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore / dust takes place. Transportation shall be done only during day time.**

Transportation of ore is done by covering the trucks with tarpaulin so that no spillage of ore / dust takes place. It was informed that the transportation is being done only during day time in company owned block topped private road.

- xviii. **Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The company shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness programme for workers on impact of mining on their health and precautionary measures like use of personal equipments etc. shall be carried out periodically. Review of impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required.**

It was informed that all the mine workers are subject to entry level medical examination and the records are maintained properly as per the requirement stipulated by the DGMS, Dhanbad who is the monitoring agency for occupational health of miners. Proposed mitigation measures include the training in occupational health to the workers and staff by way of AV presentation & lectures by occupational experts; periodical medical examination for workmen and necessary tests are conducted for general health check ups like spirometry, audiometry, and vision & X-ray examination. All the workmen & staff are provided with ear muffs & respirators to guard against pulmonary diseases. They are also being provided PPE like dust mask, helmets, safety shoes, goggles, earplugs etc. Hospital facilities are available for the mine workers and staff.

- xix. **Top soil/ solid waste shall be stacked properly with proper slope and adequate safeguards and shall be utilized for backfilling (wherever applicable) for reclamation and rehabilitation of mined out area. Top soil shall be separately stacked for utilization later for reclamation and shall not be stacked along with over burden.**

No separate stacking of top soil is practiced here. Since simultaneous refilling and reclamation is practiced. The refilled area is afforested immediately with suitable species.